Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A constant velocity joint comprising:

a hollow housing having an opening at one end, an inner face of the housing being provided with three guide grooves extending in an axial direction of the housing and being spaced apart equally in a circumferential direction, each groove having a pair of side faces opposed to each other, extending in the axial direction, and a bottom portion connecting the side faces;

a tripod having three trunnions positioned in the grooves of the housing with each of the trunnions extending radially along [[a]] respective trunnion [[axis]] axes, the trunnions being spaced apart equally in a circumferential direction and having end portions defining partially spherical outer surfaces with a trunnion centerline passing through a center of each of the end portions wherein the trunnion centerline is perpendicular to each of the respective trunnion [[axis]] axes;

inner rollers mounted to the end portions of respective trunnions with each of the inner rollers having a partially spherical inner face defining an inner diameter and a cylindrical outer surface, the spherical inner face of the inner rollers cooperating with the spherical outer surfaces of the trunnions such that the inner rollers may pivot freely on the respective outer surfaces of the trunnions;

outer rollers mounted to respective outer surfaces of the inner rollers through needle bearings, the outer rollers having cylindrical inner surfaces and spherical outer faces, the cylindrical inner surfaces of the outer rollers mating with the respective cylindrical outer surfaces of the inner rollers through the needle bearings to allow relative sliding movement between the inner and outer rollers along the trunnion axis and the outer faces of the outer rollers mating with the side faces of respective guide grooves; and

a partial cylindrical face formed on each spherical outer surface of each trunnion with each cylindrical face having a diameter sized relative to the inner

diameter of the inner rollers and inclined relative to both the trunnion centerline and the trunnion axis of each associated trunnion to present and expose the cylindrical face to the respective inner rollers to enable the inner rollers to be installed onto respective trunnions by aligning the inner rollers coaxially with the cylindrical faces and guiding the inner rollers axially over the diameter of the cylindrical faces into engagement with the trunnions.

2. (Previously Presented) A constant velocity joint according to claim 1, wherein:

the diameter (d) of each partial cylindrical face provided on each outer surface of each trunnion is related to the inner diameter (D) of each inner face of each inner roller in accordance with the following formula:

$(d) < (D)$

and $5° < \text{angle}(\theta)$,

wherein the $\text{angle}(\theta)$ is an angle between the trunnion centerline and a line connecting between the center of the trunnion and an edge of the partial cylindrical face with the edge of the cylindrical face being the farthest edge from the center of the trunnion.

3. (Currently Amended) A constant velocity joint, comprising:

a hollow housing having an open end and an inner face formed with three axially extending circumferentially spaced guide grooves;

a tripod disposed in said housing having three circumferentially spaced trunnions extending radially outwardly along respective trunnion axes into said guide grooves, each trunnion having an outer surface that is at least partially spherical with a trunnion centerline passing through a center of each of said trunnions wherein said trunnion centerline is perpendicular to each of said respective trunnion axes;

a roller assembly carried on each of said trunnions within said guide grooves and supported for rotation, angular and axial movement relative to said trunnions with

said roller assembly having an inner face that is at least partially spherical to cooperate with said spherical outer surfaces of said trunnions; and

a cylindrical face formed on said spherical outer surface of each of said trunnions having a diameter sized relative to an inner diameter of said roller assembly with said cylindrical face inclined relative to both said respective trunnion axes and said respective trunnion centerlines to present and expose said diameter of said cylindrical face such that said roller assembly can be inserted onto said respective trunnion about said inclined cylindrical face.

4. (Cancelled).

5. (Cancelled).

6. (Cancelled).

7. (Currently Amended) A constant velocity joint according to claim 1 wherein the spherical outer surfaces of each of the trunnions includes a contact surface area engaging the spherical inner face of the inner roller for receiving a load during rotation of the joint and wherein the cylindrical face formed on the outer surface of each trunnion does not intersect ~~is spaced from~~ the contact surface area on each trunnion.

8. (Currently Amended) The constant velocity joint of claim 3 wherein said outer surface of each of said trunnions includes a contact surface area engaging an inner face of said roller assembly for receiving a load during rotation of the joint and wherein said cylindrical face formed on said outer surface of each trunnion does not intersect ~~is spaced from~~ said contact surface area on each trunnion.

9. (New) A constant velocity joint comprising:

a hollow housing having an opening at one end, an inner face of the housing being provided with three guide grooves extending in an axial direction of the housing

and being spaced apart equally in a circumferential direction, each groove having a pair of side faces opposed to each other, extending in the axial direction, and a bottom portion connecting the side faces;

a tripod having three trunnions positioned in the grooves of the housing with each of the trunnions extending radially along respective trunnion axes, the trunnions being spaced apart equally in a circumferential direction and having end portions defining partially spherical outer surfaces with a trunnion centerline passing through a center of each of the end portions wherein the trunnion centerline is perpendicular to each of the trunnion axes;

inner rollers mounted to the end portions of respective trunnions with each of the inner rollers having a partially spherical inner face defining an inner diameter (D) and a cylindrical outer surface, the inner face of the inner rollers cooperating with the outer surfaces of the trunnions such that the inner rollers may pivot freely on the respective outer surfaces of the trunnions;

outer rollers mounted to respective outer surfaces of the inner rollers through needle bearings, the outer rollers having cylindrical inner surfaces and spherical outer faces, the cylindrical inner surfaces of the outer rollers mating with the respective cylindrical outer surfaces of the inner rollers through the needle bearings and the outer faces of the outer rollers mating with the side faces of respective guide grooves; and

a partial cylindrical face formed on each spherical outer surface of each trunnion with each cylindrical face having a diameter (d) which is less than the inner diameter (D) of each inner face of each inner roller, and said partial cylindrical face being inclined relative to the trunnion axis and inclined relative to the trunnion centerline of each associated trunnion by an angle(θ) to present and expose the cylindrical face to the respective inner rollers, wherein the angle(θ) is greater than 5° and is an angle between the trunnion centerline and a line connecting between the center of the trunnion and an edge of the partial cylindrical face with the edge of the cylindrical face being the farthest edge from the center of the trunnion, said inclined partial cylindrical face enabling the inner rollers to be installed onto respective trunnions by aligning the inner rollers coaxially with the cylindrical faces and guiding

the inner rollers axially over the diameter (d) of the cylindrical faces into engagement with the trunnions.

10. (New) A constant velocity joint according to claim 9 wherein the spherical outer surfaces of each of the trunnions includes a contact surface area engaging the spherical inner face of the inner roller for receiving a load during rotation of the joint and wherein the cylindrical face formed on the outer surface of each trunnion does not intersect the contact surface area on each trunnion.